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RAW SEQUENCE LISTING   DATE: 06/10/2003 P.6
PATENT APPLICATION: US/09/667,947A   TIME: 11:18:45

Input Set : A:\07039-298001.txt
Output Set: N:\CRF4\06102003\I667947A.raw

```
   4 <110> APPLICANT: Russell, Stephen James
   5        Cattaneo, Roberto
   6        Peng, Kah-Whye
   7        Schneider, Urs
   8        Murphy, Anthea L.
  10 <120> TITLE OF INVENTION: Therapeutic methods and compositions
  11        using viruses of the recombinant paramyxoviridae family
  14 <130> FILE REFERENCE: 07039-298001
  16 <140> CURRENT APPLICATION NUMBER: US 09/667,947A
  17 <141> CURRENT FILING DATE: 2000-09-22
  19 <150> PRIOR APPLICATION NUMBER: US 60/155,873
  20 <151> PRIOR FILING DATE: 1999-09-24
  22 <160> NUMBER OF SEQ ID NOS: 49
  24 <170> SOFTWARE: FastSEQ for Windows Version 4.0
  26 <210> SEQ ID NO: 1
  27 <211> LENGTH: 4
  28 <212> TYPE: PRT
  29 <213> ORGANISM: Artificial Sequence
W--> 30 <220> FEATURE:
  31 <223> OTHER INFORMATION: Factor Xa cleavage site
W--> 32 <400> SEQUENCE: 1
  33 Ile Glu Gly Arg
  34  1
  36 <210> SEQ ID NO: 2
  37 <211> LENGTH: 4
  38 <212> TYPE: PRT
  39 <213> ORGANISM: Artificial Sequence
W--> 40 <220> FEATURE:
  41 <223> OTHER INFORMATION: Furin cleavage site
W--> 42 <220> FEATURE:
  43 <221> NAME/KEY: VARIANT
  44 <222> LOCATION: 2
  45 <223> OTHER INFORMATION: Xaa = Any 20 amino acids
W--> 46 <400> SEQUENCE: 2
W--> 47 Arg Xaa Lys Arg
  48  1
  50 <210> SEQ ID NO: 3
  51 <211> LENGTH: 6
  52 <212> TYPE: PRT
  53 <213> ORGANISM: Artificial Sequence
W--> 54 <220> FEATURE:
  55 <223> OTHER INFORMATION: MMP cleavage site
  58 <400> SEQUENCE: 3
```

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       59 Pro Leu Gly Leu Trp Ala
       60  1               5
       62 <210> SEQ ID NO: 4
       63 <211> LENGTH: 6
       64 <212> TYPE: PRT
       65 <213> ORGANISM: Artificial Sequence
W-->   66 <220> FEATURE:
       67 <223> OTHER INFORMATION: Caspase-1 cleavage site
W-->   68 <400> SEQUENCE: 4
       69 Tyr Glu Val Asp Gly Trp
       70  1               5
       72 <210> SEQ ID NO: 5
       73 <211> LENGTH: 7
       74 <212> TYPE: PRT
       75 <213> ORGANISM: Artificial Sequence
W-->   76 <220> FEATURE:
       77 <223> OTHER INFORMATION: Caspase-2 cleavage site
W-->   78 <400> SEQUENCE: 5
       79 Val Asp Val Ala Asp Gly Trp
       80  1               5
       82 <210> SEQ ID NO: 6
       83 <211> LENGTH: 7
       84 <212> TYPE: PRT
       85 <213> ORGANISM: Artificial Sequence
W-->   86 <220> FEATURE:
       87 <223> OTHER INFORMATION: Caspase-3 cleavage site
W-->   88 <400> SEQUENCE: 6
       89 Val Asp Gln Met Asp Gly Trp
       90  1               5
       92 <210> SEQ ID NO: 7
       93 <211> LENGTH: 6
       94 <212> TYPE: PRT
       95 <213> ORGANISM: Artificial Sequence
W-->   96 <220> FEATURE:
       97 <223> OTHER INFORMATION: Caspase-4 cleavage site
W-->   98 <400> SEQUENCE: 7
       99 Leu Glu Val Asp Gly Trp
      100  1               5
      102 <210> SEQ ID NO: 8
      103 <211> LENGTH: 6
      104 <212> TYPE: PRT
      105 <213> ORGANISM: Artificial Sequence
W-->  106 <220> FEATURE:
      107 <223> OTHER INFORMATION: Caspase-6 cleavage site
W-->  108 <400> SEQUENCE: 8
      109 Val Gln Val Asp Gly Trp
      110  1               5
      112 <210> SEQ ID NO: 9
      113 <211> LENGTH: 7
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Input Set : **A:\07039-298001.txt**
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```
     114 <212> TYPE: PRT
     115 <213> ORGANISM: Artificial Sequence
W--> 116 <220> FEATURE:
     117 <223> OTHER INFORMATION: Caspase-7 cleavage site
W--> 118 <400> SEQUENCE: 9
     119 Val Asp Gln Val Asp Gly Trp
     120 1               5
     122 <210> SEQ ID NO: 10
     123 <211> LENGTH: 4
     124 <212> TYPE: PRT
     125 <213> ORGANISM: Artificial Sequence
W--> 126 <220> FEATURE:
     127 <223> OTHER INFORMATION: Proprotein convertase cleavage site
W--> 128 <400> SEQUENCE: 10
     129 Arg Gly Leu Thr
     130 1
     132 <210> SEQ ID NO: 11
     133 <211> LENGTH: 17
     134 <212> TYPE: PRT
     135 <213> ORGANISM: Artificial Sequence
W--> 136 <220> FEATURE:
     137 <223> OTHER INFORMATION: FMDV protease 2A cleavage site
W--> 138 <400> SEQUENCE: 11
     139 Asn Phe Asp Leu Leu Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly
     140 1               5                   10                  15
     141 Pro
     143 <210> SEQ ID NO: 12
     144 <211> LENGTH: 34
     145 <212> TYPE: PRT
     146 <213> ORGANISM: Paramyxoviridae
W--> 147 <220> FEATURE:
     148 <223> OTHER INFORMATION: H protein cytoplasmic tail
W--> 149 <400> SEQUENCE: 12
     150 Met Ser Pro Gln Arg Asp Arg Ile Asn Ala Phe Tyr Lys Asp Asn Pro
     151 1               5                   10                  15
     152 His Pro Lys Gly Ser Arg Ile Val Ile Asn Arg Glu His Leu Met Ile
     153             20                  25                  30
     154 Asp Arg
     157 <210> SEQ ID NO: 13
     158 <211> LENGTH: 33
     159 <212> TYPE: PRT
     160 <213> ORGANISM: Paramyxoviridae
W--> 161 <220> FEATURE:
     162 <223> OTHER INFORMATION: F protein cytoplasmic tail
W--> 163 <400> SEQUENCE: 13
     164 Arg Gly Arg Cys Asn Lys Lys Gly Glu Gln Val Gly Met Ser Arg Pro
     165 1               5                   10                  15
     166 Gly Leu Lys Pro Asp Leu Thr Gly Thr Ser Lys Ser Tyr Val Arg Ser
     167             20                  25                  30
```

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Input Set : A:\07039-298001.txt
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     168 Leu
     172 <210> SEQ ID NO: 14
     173 <211> LENGTH: 5
     174 <212> TYPE: PRT
     175 <213> ORGANISM: Artificial Sequence
W--> 176 <220> FEATURE:
     177 <223> OTHER INFORMATION: Furin cleavage site
W--> 178 <400> SEQUENCE: 14
     179 Arg Arg His Lys Arg
     180 1   5
     182 <210> SEQ ID NO: 15
     183 <211> LENGTH: 4
     184 <212> TYPE: PRT
     185 <213> ORGANISM: Artificial Sequence
W--> 186 <220> FEATURE:
     187 <223> OTHER INFORMATION: Furin cleavage site
W--> 188 <400> SEQUENCE: 15
     189 Arg His Lys Arg
     190 1
     192 <210> SEQ ID NO: 16
     193 <211> LENGTH: 47
     194 <212> TYPE: DNA
     195 <213> ORGANISM: Artificial Sequence
W--> 196 <220> FEATURE:
     197 <223> OTHER INFORMATION: Primer
W--> 198 <400> SEQUENCE: 16
     199 ttttcctttt gcggccgctt tcatcaacgc ttctgcaggg acccctc   47
     201 <210> SEQ ID NO: 17
     202 <211> LENGTH: 56
     203 <212> TYPE: DNA
     204 <213> ORGANISM: Artificial Sequence
W--> 205 <220> FEATURE:
     206 <223> OTHER INFORMATION: Primer
W--> 207 <400> SEQUENCE: 17
     208 gtccatgcgg cccagccggc ccgattaaag agagaggcag aggacctgca ggtggg   56
     210 <210> SEQ ID NO: 18
     211 <211> LENGTH: 18
     212 <212> TYPE: PRT
     213 <213> ORGANISM: Artificial Sequence
W--> 214 <220> FEATURE:
     215 <223> OTHER INFORMATION: Amino acid sequence coded for by primer
W--> 216 <400> SEQUENCE: 18
     217 Val His Ala Ala Gln Pro Ala Arg Leu Lys Arg Glu Ala Glu Asp Leu
     218 1   5   10   15
     219 Gln Val
     222 <210> SEQ ID NO: 19
     223 <211> LENGTH: 50
     224 <212> TYPE: DNA
     225 <213> ORGANISM: Artificial Sequence

RAW SEQUENCE LISTING   DATE: 06/10/2003
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```
W--> 226 <220> FEATURE:
     227 <223> OTHER INFORMATION: Primer
     229 <400> SEQUENCE: 19
     230 ttttcctttt gcggccgctt tcatcatcaa cgcttctgca gggacccctc          50
     232 <210> SEQ ID NO: 20
     233 <211> LENGTH: 59
     234 <212> TYPE: DNA
     235 <213> ORGANISM: Artificial Sequence
W--> 236 <220> FEATURE:
     237 <223> OTHER INFORMATION: Primer
W--> 238 <400> SEQUENCE: 20
     239 gtccatgcgg cccagccggc cggtggaggc ggttcagagg cagaggacct gcaggtggg   59
     241 <210> SEQ ID NO: 21
     242 <211> LENGTH: 19
     243 <212> TYPE: PRT
     244 <213> ORGANISM: Artificial Sequence
W--> 245 <220> FEATURE:
     246 <223> OTHER INFORMATION: Amino acid sequence coded for by primer
W--> 247 <400> SEQUENCE: 21
     248 Val His Ala Ala Gln Pro Ala Gly Gly Gly Gly Ser Glu Ala Glu Asp
     249 1               5                   10                  15
     250 Leu Gln Val
     253 <210> SEQ ID NO: 22
     254 <211> LENGTH: 16
     255 <212> TYPE: PRT
     256 <213> ORGANISM: Paramyxoviridae
W--> 257 <220> FEATURE:
     258 <223> OTHER INFORMATION: F protein cytoplasmic tail
W--> 259 <400> SEQUENCE: 22
     260 Arg Gly Arg Cys Asn Lys Lys Gly Glu Gln Gly Met Ser Arg Pro Gly
     261 1               5                   10                  15
     263 <210> SEQ ID NO: 23
     264 <211> LENGTH: 9
     265 <212> TYPE: PRT
     266 <213> ORGANISM: Paramyxoviridae
W--> 267 <220> FEATURE:
     268 <223> OTHER INFORMATION: Cytoplasmic tail of Fc(24 mutant
W--> 269 <400> SEQUENCE: 23
     270 Arg Gly Arg Cys Asn Lys Lys Gly Glu
     271 1               5
     273 <210> SEQ ID NO: 24
     274 <211> LENGTH: 26
     275 <212> TYPE: DNA
     276 <213> ORGANISM: Artificial Sequence
W--> 277 <220> FEATURE:
     278 <223> OTHER INFORMATION: Primer
W--> 279 <400> SEQUENCE: 24
     280 aaaactgcag actcaaaggt caatgc                                     26
     282 <210> SEQ ID NO: 25
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/10/2003
PATENT APPLICATION: US/09/667,947A   TIME: 11:18:46

Input Set : A:\07039-298001.txt
Output Set: N:\CRF4\06102003\I667947A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 2
Seq#:35; Xaa Pos. 5,6,7
Seq#:36; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,15,16,17,20

VERIFICATION SUMMARY   DATE: 06/10/2003
PATENT APPLICATION: **US/09/667,947A**   TIME: 11:18:46

Input Set : **A:\07039-298001.txt**
Output Set: **N:\CRF4\06102003\I667947A.raw**

```
L:30 M:283 W: Missing Blank Line separator, <220> field identifier
L:32 M:283 W: Missing Blank Line separator, <400> field identifier
L:40 M:283 W: Missing Blank Line separator, <220> field identifier
L:42 M:283 W: Missing Blank Line separator, <220> field identifier
L:46 M:283 W: Missing Blank Line separator, <400> field identifier
L:47 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:54 M:283 W: Missing Blank Line separator, <220> field identifier
L:66 M:283 W: Missing Blank Line separator, <220> field identifier
L:68 M:283 W: Missing Blank Line separator, <400> field identifier
L:76 M:283 W: Missing Blank Line separator, <220> field identifier
L:78 M:283 W: Missing Blank Line separator, <400> field identifier
L:86 M:283 W: Missing Blank Line separator, <220> field identifier
L:88 M:283 W: Missing Blank Line separator, <400> field identifier
L:96 M:283 W: Missing Blank Line separator, <220> field identifier
L:98 M:283 W: Missing Blank Line separator, <400> field identifier
L:106 M:283 W: Missing Blank Line separator, <220> field identifier
L:108 M:283 W: Missing Blank Line separator, <400> field identifier
L:116 M:283 W: Missing Blank Line separator, <220> field identifier
L:118 M:283 W: Missing Blank Line separator, <400> field identifier
L:126 M:283 W: Missing Blank Line separator, <220> field identifier
L:128 M:283 W: Missing Blank Line separator, <400> field identifier
L:136 M:283 W: Missing Blank Line separator, <220> field identifier
L:138 M:283 W: Missing Blank Line separator, <400> field identifier
L:147 M:283 W: Missing Blank Line separator, <220> field identifier
L:149 M:283 W: Missing Blank Line separator, <400> field identifier
L:161 M:283 W: Missing Blank Line separator, <220> field identifier
L:163 M:283 W: Missing Blank Line separator, <400> field identifier
L:176 M:283 W: Missing Blank Line separator, <220> field identifier
L:178 M:283 W: Missing Blank Line separator, <400> field identifier
L:186 M:283 W: Missing Blank Line separator, <220> field identifier
L:188 M:283 W: Missing Blank Line separator, <400> field identifier
L:196 M:283 W: Missing Blank Line separator, <220> field identifier
L:198 M:283 W: Missing Blank Line separator, <400> field identifier
L:205 M:283 W: Missing Blank Line separator, <220> field identifier
L:207 M:283 W: Missing Blank Line separator, <400> field identifier
L:214 M:283 W: Missing Blank Line separator, <220> field identifier
L:216 M:283 W: Missing Blank Line separator, <400> field identifier
L:226 M:283 W: Missing Blank Line separator, <220> field identifier
L:236 M:283 W: Missing Blank Line separator, <220> field identifier
L:238 M:283 W: Missing Blank Line separator, <400> field identifier
L:245 M:283 W: Missing Blank Line separator, <220> field identifier
L:247 M:283 W: Missing Blank Line separator, <400> field identifier
L:257 M:283 W: Missing Blank Line separator, <220> field identifier
L:259 M:283 W: Missing Blank Line separator, <400> field identifier
L:267 M:283 W: Missing Blank Line separator, <220> field identifier
L:269 M:283 W: Missing Blank Line separator, <400> field identifier
L:277 M:283 W: Missing Blank Line separator, <220> field identifier
L:279 M:283 W: Missing Blank Line separator, <400> field identifier
```

VERIFICATION SUMMARY   DATE: 06/10/2003
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Input Set : **A:\07039-298001.txt**
Output Set: **N:\CRF4\06102003\I667947A.raw**

```
L:289 M:283 W: Missing Blank Line separator, <400> field identifier
L:296 M:283 W: Missing Blank Line separator, <220> field identifier
L:298 M:283 W: Missing Blank Line separator, <400> field identifier
L:389 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:35
L:392 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:35
L:393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:409 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:412 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:415 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:418 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:421 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:424 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:427 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:430 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:433 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:436 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:439 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:442 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:445 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:446 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
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